



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/775,411

02/10/2004

Glenn Gaarder

084061-0573

9748

22879

7590

10/19/2006

HEWLETT PACKARD COMPANY  
P O BOX 272400, 3404 E. HARMONY ROAD  
INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER

MORRISON, THOMAS A

ART UNIT

PAPER NUMBER

3653

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/775,411

Applicant(s)

GAARDER ET AL.

Examiner

Thomas A. Morrison

Art Unit

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5-14 and 16-26 is/are pending in the application.
- 4a) Of the above claim(s) 26 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-24 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 9-14 and 25 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The indicated allowability of claims 1-3, 6, 9-14 and 25 is withdrawn in view of the newly discovered reference(s) to U.S. Patent No. 5,419,543 (Nakamura et al.). Rejections based on the newly cited reference(s) follow. The examiner regrets any inconvenience that may have resulted from these new rejections.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5, 10, 12-14 and 25 are rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 5,419,543 (Nakamura et al.) or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Nakamura et al. patent in view of U.S. Patent No. 5,742,318 (Miyauchi et al.).

Regarding claim 1, Figs. 1-3 of Nakamura et al. show a sheet transfer apparatus (Fig. 1) comprising:

a first roller (21) configured to be rotatably driven at a first surface speed;

a second roller (5) spaced from the first roller (21) such that the first roller (21) and the second roller (5) are configured to simultaneously engage a media sheet, wherein the second roller (5) is configured to be driven at a second surface speed greater than the first surface speed; and

a power train delivering power to the first roller (21) to rotatably drive the first roller (21), the power train including:

a first gear (unnumbered gear between elements 55 and 5) coupled to the first roller (21);

a second gear (55); and

a third gear (64) movable between a first position (Figs. 1 and 2) in which the third gear (64) is in power-transmitting engagement with the first gear (unnumbered gear between elements 55 and 5) and the second gear (55) and a second position (dotted arrow in Fig. 2) in which the third gear (64) is out of engagement with the second gear (55). Regarding the recitation, "wherein the second roller is configured to be driven at a second surface speed greater than the first surface speed", the sizes of the gears (i.e., gear 55, the unnumbered gear between elements 55 and 5, and the gear attached to element 5) are such that the second roller (5) will be driven at a speed that is faster than the speed of the first roller (21). Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dimension the gears such that the second roller (5) is driven at a greater speed than the first roller (21) for the purpose of applying the proper tension to the sheet conveyed by the first and second rollers, as taught by the Miyauchi et al. patent. See, e.g., Abstract of Miyauchi et al.

Regarding claim 5, the third gear (64) of Nakamura et al. remains in the first position (Figs. 1 and 2) upon the first roller (21) and the second roller (5) simultaneously engaging the media sheet.

Regarding claim 10, the first roller (21) of Nakamura et al. is a pre-feed roller and wherein the second roller (5) is a separation roller.

Regarding claim 12, Fig. 1 of Nakamura shows a frame rotatably supporting the first roller (21) and the second roller (5).

Regarding claim 13, Figs. 1-2 of Nakamura et al. show that the power train extends between the first roller (21) and the second roller (5).

Regarding claim 14, different elements are relied upon to reject this claim than those applied above in the rejection of claim 1. Thus, the entire claim 14 including all of the elements of claims 1 and 12 is included in the rejection below. For claim 14, Figs. 1-3 of Nakamura et al. show a sheet transfer apparatus (Fig. 1) comprising:

- a first roller (21) configured to be rotatably driven at a first surface speed;

- a second roller (5) spaced from the first roller (21) such that the first roller (21) and the second roller (5) are configured to simultaneously engage a media sheet, wherein the second roller (5) is configured to be driven at a second surface speed greater than the first surface speed; and

- a power train delivering power to the first roller (21) to rotatably drive the first roller (21), the power train including:

a first gear (unnumbered gear connected to element 62) coupled (i.e, indirectly coupled via elements 64 and 55) to the first roller (21);

a second gear (55); and

a third gear (64) movable between a first position (Figs. 1 and 2) in which the third gear (64) is in power-transmitting engagement with the first gear (unnumbered gear connected to element 62) and the second gear (55) and a second position (dotted arrow in Fig. 2) in which the third gear (64) is out of engagement with the second gear (55). Regarding the recitation, "wherein the second roller is configured to be driven at a second surface speed greater than the first surface speed", the sizes of the gears (i.e., gear 55, the unnumbered gear between elements 55 and 5, and the gear attached to element 5) are such that the second roller (5) will be driven at a speed that is faster than the speed of the first roller (21). Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dimension the gears such that the second roller (5) is driven at a greater speed than the first roller (21) for the purpose of applying the proper tension to the sheet conveyed by the first and second rollers, as taught by the Miyauchi et al. patent. See, e.g., Abstract of Miyauchi et al.

Also, Fig. 1 of Nakamura et al. shows a frame rotatably supporting the first roller (21) and the second roller (5).

In addition, Figs. 1-2 of Nakamura et al. show that the power train includes a fourth gear (unnumbered gear on roller 5) coupled to the second roller (5) and a fifth

gear (unnumbered gear between elements 55 and 5) coupled between the fourth gear (unnumbered gear on roller 5) and the second gear (55).

Regarding claim 25, Figs. 1-3 of Nakamura et al. shows a sheet transfer apparatus (Fig. 1) comprising:

a first roller (21) configured to be rotatably driven at a first surface speed;

a second roller (5) spaced from the first roller (21) such that the first roller (21) and the second roller (5) are configured to simultaneously engage a media sheet, the second roller (5) being configured to be driven at a second surface speed greater than the first surface speed;

a drive gear (55) operably coupled to the first roller (21); and

means for cessating transmission of power (including 61) to the drive gear (55) after the first roller (21) and the second roller (5) have initially and simultaneously engaged a media sheet. Regarding the recitation, "the second roller being configured to be driven at a second surface speed greater than the first surface speed", the sizes of the gears (i.e., gear 55, the unnumbered gear between elements 55 and 5, and the gear attached to element 5) are such that the second roller (5) will be driven at a speed that is faster than the speed of the first roller (21). Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dimension the gears such that the second roller (5) is driven at a greater speed than the first roller (21) for the purpose of applying the proper tension to the sheet conveyed by the first and second rollers, as taught by the Miyauchi et al. patent. See, e.g., Abstract of Miyauchi

Art Unit: 3653

et al. Regarding the recitation, "means for cessating transmission of power to the drive gear **after the first roller and the second roller have initially and simultaneously engaged a media sheet**" (emphasis added), it is the examiner's position that the elements of portion 61 rotate gear 64 to the dotted arrow position of Fig. 2 at some time **after** the first roller (21) and the second roller (5) have initially and simultaneously engaged a media sheet and before the feeding of the next sheet. Thus, all of the limitations of claim 25 are met.

3. Claim 25 is rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 6,168,147 (Nose et al.) or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Nose et al. patent in view of U.S. Patent No. 5,742,318 (Miyauchi et al.).

Regarding claim 25, Figs. 1-6 of Nose et al. show a sheet transfer apparatus (Fig. 1) comprising:

a first roller (6) configured to be rotatably driven at a first surface speed;

a second roller (3) spaced from the first roller (6) such that the first roller (6) and the second roller (3) are configured to simultaneously engage a media sheet, the second roller (3) being configured to be driven at a second surface speed greater than the first surface speed;

a drive gear (16) operably coupled to the first roller (6); and

means for cessating transmission of power (including 10) to the drive gear (16) after the first roller (6) and the second roller (3) have initially and simultaneously engaged a media sheet. See e.g., column 4, lines 37-48 of Nose et al. for an



Art Unit: 3653

explanation of how element 10 cessates the transmission of power to the drive gear (16). Regarding the recitation, "the second roller being configured to be driven at a second surface speed greater than the first surface speed", column 4, lines 45-48 explain that the sheet is overdriven during feeding. As such, the second roller (3) can operate at a faster speed than the first roller (6). Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dimension the drive train elements of Nose et al. such that the roller (3) is driven at a greater speed than the first roller (6) for the purpose of applying the proper tension to the sheet conveyed by the first and second rollers, as taught by the Miyauchi et al. patent. See, e.g., Abstract of Miyauchi et al. Thus, all of the limitations of claim 25 are met.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-3, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,419,543 (Nakamura et al.) by itself or in combination with U.S. Patent No. 5,742,318 (Miyauchi et al.) as applied to claim 1 above, and further in view of U.S. Patent No. 6,168,147 (Nose et al.).

Regarding claim 2, the Nakamura et al. patent by itself or in combination with the Miyauchi et al. patent discloses all of the limitations of claim 2, except for the first gear

and the first roller being configured such that a dwell between the first gear and the first roller is created upon the first roller and the second roller simultaneously engaging the media sheet.

Figs. 1-6 of the Nose et al. patent disclose that it is well known to provide a sheet transfer apparatus (Fig. 1) with a first gear (14) and a first roller (including 6 and 10) being configured such that a dwell (i.e., dwell by element 10) between the first gear (14) and the first roller (including 6 and 10) is created upon the first roller (including 6 and 10) and a second roller (including 3) simultaneously engaging a media sheet. In particular, Figs. 1 and 6, and column 4, lines 37-48 of Nose et al. disclose that element 10 operates as a clutch in the event of overfeeding of sheets. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the first roller (21) of Nakamura et al. with a clutch for the purpose of counteracting overfeeding of sheets, as taught by Nose et al. Providing such clutch on the first roller (21) of Nakamura et al. will result in the first gear (unnumbered gear between elements 55 and 5) of Nakamura et al. and the first roller (21) of Nakamura et al. being configured such that a dwell between the first gear (unnumbered gear between elements 55 and 5) and the first roller (21) will be created upon the first roller (21) of Nakamura et al. and the second roller (5) of Nakamura et al. simultaneously engaging a media sheet.

Regarding claim 3, the third gear (64) is in the first position as the dwell is being created.

Regarding claim 6, by adding the clutch arrangement of the Nose patent on the first roller (21) of Nakamura et al. will result in the first roller (21) of Nakamura et al. being configured to rotate relative to the first gear (unnumbered gear between elements 55 and 5) of Nakamura et al. upon the first roller (21) and the second roller (5) simultaneously engaging the media sheet.

Regarding claim 9, providing the clutch arrangement of the Nose patent on the first roller (21) of Nakamura et al. will result in a drag spring (39) being coupled between the first roller (21) and the first gear (unnumbered gear between elements 55 and 5) of Nakamura et al. See e.g., Fig. 6 of the Nose patent.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,419,543 (Nakamura et al.) by itself or in combination with U.S. Patent No. 5,742,318 (Miyauchi et al.) as applied to claim 1 above, and further in view of U.S. Patent Publication No. 20020179222. The Nakamura et al. patent by itself or in combination with the Miyauchi et al. patent discloses all of the elements of claim 11, except for the third gear including elastomeric teeth.

U.S. Patent Publication No. 20020179222 discloses that it is well known to provide a sheet transfer apparatus (Fig. 1) with an elastomeric gear drive system, for the purpose of driving a plurality of rollers (32 and 34). See e.g., Fig. 5 and numbered paragraph [0049]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the power train of the Nakamura et al. patent with gear drive system (including first, second and third gears) that is elastomeric, for the purpose of driving the rollers 21 and 5) of Nakamura et al. With the gears being

Art Unit: 3653

elastomeric, it is the examiner's position that the teeth of the gears can also be considered elastomeric.

***Allowable Subject Matter***

6. Claims 16-24 are allowed. Claims 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

7. Applicant's arguments with respect to claims 4 and 15 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Art Unit: 3653

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10/13/2006

A handwritten signature in black ink, appearing to be 'PM' or similar initials, written in a cursive style.

PATRICK MACKEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600